Codex

Objective

Authors of books and articles in software engineering have a need to illustrate their ideas with actual code or script examples. Even if entire projects are available as examples, fragments of code with explanations is found to be effective. This projectlet helps in this by creating embeddable code fragments in the form of a graphics file.

Essentially this tool is used to scan through a (presumably large) source file and extract parts and illustrative diagrams are created.

Specifications

Command	Switch	Description
convert		Converts the source lines to graphic form.
		First argument is the name of the source file
		Second argument is the name of the output graphic file(s). For each fragment a separate file is created.
		Rest of the arguments are fragments of code specified in the form <starting line no>:<number of lines>

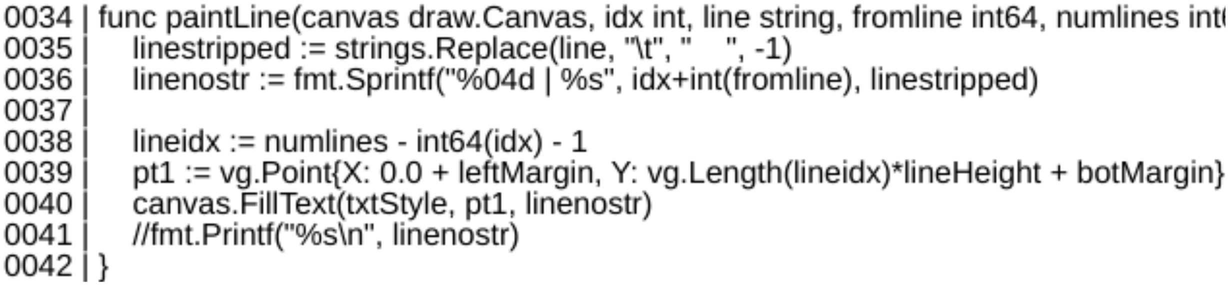
Usage

```
bin/codex convert --help

        Code fragments are extracted from the specified file and
        a graphic file is generated for each fragment.

        usage:
                convert sourcefile graphicbase linefrom:lines linefrom:lines ...

        output files are named in the format graphicbase.<fragment no>.png

Usage:
  codex convert [flags]

Flags:
  -h, --help   help for convert

Global Flags:
      --verbose   be verbose
```

Examples

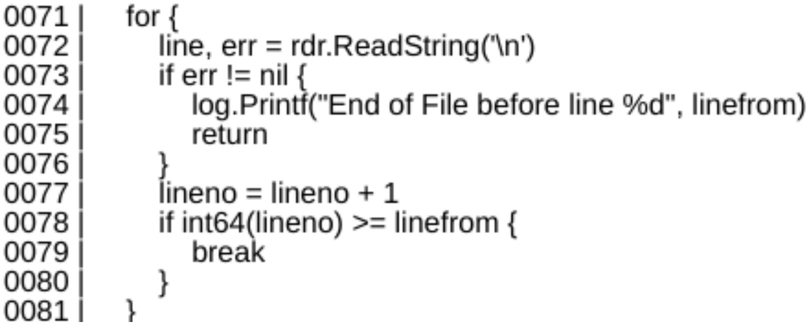
```
bin/codex convert impl/convert/convert.go out 34:9 71:11
2020/05/19 15:29:07 Extracting fragments from impl/convert/convert.go into graphic files out
2020/05/19 15:29:07 Will create out.0.png with lines 34 to 42
2020/05/19 15:29:07 Will create out.1.png with lines 71 to 81
```

The results of the above:



```
0034 | func paintLine(canvas draw.Canvas, idx int, line string, fromline int64, numlines int
0035 |     linestripped := strings.Replace(line, "\t", "    ", -1)
0036 |     linenostr := fmt.Sprintf("%04d | %s", idx+int(fromline), linestripped)
0037 |
0038 |     lineidx := numlines - int64(idx) - 1
0039 |     pt1 := vg.Point{X: 0.0 + leftMargin, Y: vg.Length(lineidx)*lineHeight + botMargin}
0040 |     canvas.FillText(txtStyle, pt1, linenostr)
0041 |     //fmt.Printf("%s\n", linenostr)
0042 | }
```

FIRST CODE EXAMPLE FILE



```
0071 |     for {
0072 |         line, err = rdr.ReadString('\n')
0073 |         if err != nil {
0074 |             log.Printf("End of File before line %d", linefrom)
0075 |             return
0076 |         }
0077 |         lineno = lineno + 1
0078 |         if int64(lineno) >= linefrom {
0079 |             break
0080 |         }
0081 |     }
```

SECOND CODE EXAMPLE FILE

Implementation

Go language example

https://gitlab.com/RajaSrinivasan/codex.git